

MIT's Oldest and  
Largest Newspaper

[thetech.com](http://thetech.com)



Volume 136, Number 32

## WEATHER, p. 2

THU: 53°F   44°F
Mostly sunny
FRI: 57°F   33°F
Mostly sunny
SAT: 45°F   35°F
Sunny

Thursday, November 10, 2016



**Students write their fears and hopes** on posters adorning the columns in Lobby 7 after Trump wins the presidential election.

## New House to be fully renovated, Houses 1, 2 will be open 2017-18

*Renovations to finish Aug. '19, staggered over 2 phases*

By Rose Wang

Planners from the Office of Campus Planning and MIT Capital Projects groups have recommended that MIT fully renovate and repair New House instead of rebuilding it, Chancellor Cynthia Barnhart PhD '88 and Vice President of Student Life Suzy Nelson informed New House residents in an email Sunday.

A feasibility study carried out by the planners determined that rebuilding would result in significantly higher costs than renovation. A staggered renovation schedule, devised by Jag Patel, director of special projects in the office of the chancellor, will permit Houses 1 and 2 to remain open for the upcoming academic year,

relieving some of the relocation pressure.

The Enrollment Management Group has determined that MIT will not need to lower the number of freshmen that it accepts to the Class of 2021 as a result of the partial closure of New House.

Houses 3 through 6 will undergo extensive heating and cooling system repairs, but repairs for House 3 will not take place while students are living in Houses 1 and 2. The renovation work will start in June 2017 and is estimated to end in August 2019. Each house will need two summers and a full academic year for reconstruction.

Current House 2 residents will move out at the end of the year, with German House and French House residents moving in for a

year while their own residence sections, Houses 5 and 6, undergo construction. After Houses 3 through 6 finish renovation, work will begin on Houses 1 and 2.

"We've found a home for all these groups in New House. What we're now working on with the matching is what kind of things should happen in the house that's hosting New House which could make it a better experience for them," said Nelson in an interview with *The Tech*.

The Division of Student Life has assured that they will be able to accommodate all New House residents based on the results from a survey that was sent around the dorm. Cultural houses and other

**New House, Page 12**



**Jimmy Handy '18, Peter Downs '18, and Sarah Melvin '18** pose behind a cake at the Senior House Centennial this Saturday, Nov. 5. Senior House alumni Mark Feldmeier '96, Melinda Cross, and Zach Barryte made the cake to commemorate the occasion.

## Forecasters failed to call the 2016 election; here's why the data failed

*Experts cite 'overselling of precision' as part of the problem*

By Steve Lohr and Natasha Singer  
*NEW YORK TIMES*

It was a rough night for number crunchers. And for the faith that people in every field — business, politics, sports and academia — have increasingly placed in the power of data.

Donald Trump's victory ran counter to almost every major forecast — undercutting the belief that analyzing reams of data can accu-

rately predict events. Voters demonstrated how much predictive analytics, and election forecasting in particular, remains a young science: Some people may have been misled into thinking Hillary Clinton's win was assured because some of the forecasts lacked context explaining potentially wide margins of error.

"It's the overselling of precision," said Dr. Pradeep Mutalik, a research scientist at the Yale Center for Medical Informatics, who had calculated that some of the vote models could

be off by 15 percent to 20 percent.

Virtually all the major vote forecasters, including Nate Silver's FiveThirtyEight site, The New York Times' Upshot and the Princeton Election Consortium, put Clinton's chances of winning in the 70 percent to 99 percent range.

The election prediction business is one small aspect of a far-reaching change across industries that have increasingly become obsessed with

**Election Data, Page 12**

## FOREIGN PHYSICS

Working in a research lab in Russia.

**CAMPUS LIFE, p. 13**

## DONALD TRUMP IS PRESIDENT

Read the reaction. **OPINION, p. 6**

## NOT SO COMPOSTABLE

It's more complicated than you think.

**OPINION, p. 7**



## ROMEO AND JULIET

Two people fall in love, you'll never guess what happens next.

**ARTS, p. 11**

## GO LOOK AT ART

At the MFA. You really needed to be told that.

**ARTS, p. 10**

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## WEATHER

# Clear and cold weather during the weekend

By Erik Lindgren  
STAFF METEOROLOGIST

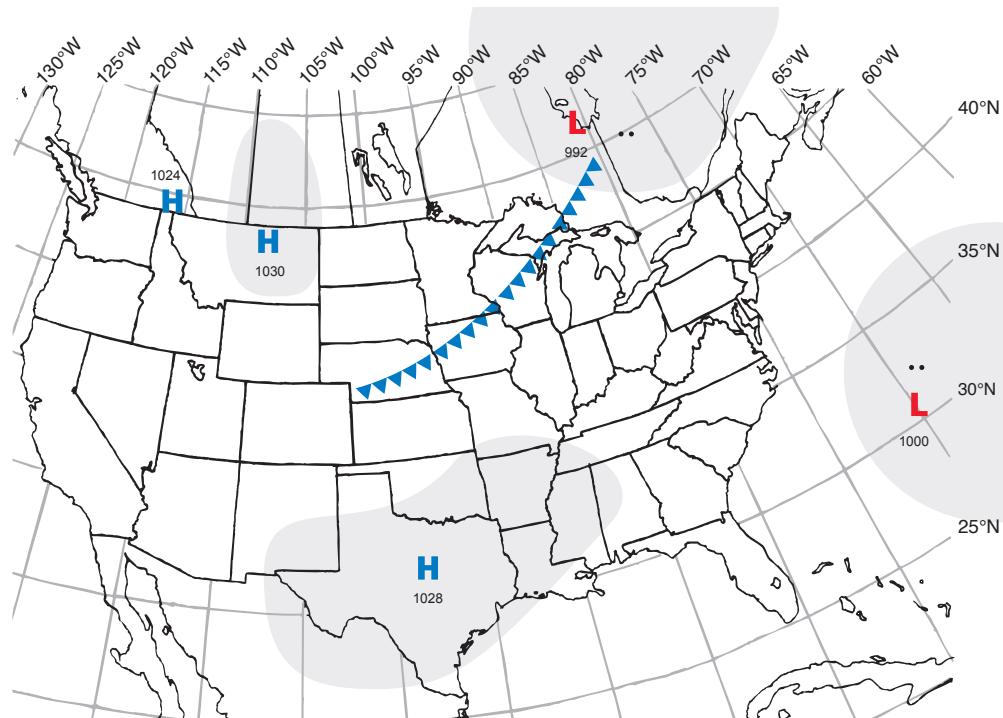
A cold front swept through the area on Wednesday, and it will be followed by high pressure and mostly clear skies on Thursday. The high pressure system over Montana and low pressure system over southern Hudson Bay will both shift east during Veterans Day, and the cyclonic flow from the low pressure system will bring us cold air from the northwest. This cold front is expected to pass through the area on Friday evening and give us temperatures close to freezing on Friday night, and low temperatures on Saturday. The southeastward moving high pressure system will build up dur-

ing its passage over the Great Lakes early Saturday, and the westerly flow caused by it will bring dry, warmer air into the area on Sunday. Expect mostly clear skies throughout the weekend. The dry air and clear skies are expected to persist through Tuesday.

Except for Friday night and Saturday, the temperatures are normal for this time of year: climatological mean high and low temperatures are 53°F and 40°F, respectively. While we experienced more rain than usual in October, the yearly accumulation is significantly lower than climatology: 27 compared to 37 inches. This is still far from the lowest recorded precipitation accumulation at this time of year, which was 20.27 inches in 1965.

## Extended Forecast

**Today:** Mostly sunny with a high around 53°F (12°C). NW winds at around 10 mph changing to SW in the afternoon.  
**Tonight:** Partly cloudy with a low around 44°F (7°C). SW winds at around 10 mph.  
**Tomorrow:** Mostly sunny and breezy with NW winds at 15-20 mph. High 57°F (14°C).  
**Saturday:** Sunny with a high around 44°F (7°C)  
**Sunday:** Sunny with a high around 54°F (12°C).



Situation for Noon Eastern Time, Thursday, November 10, 2016

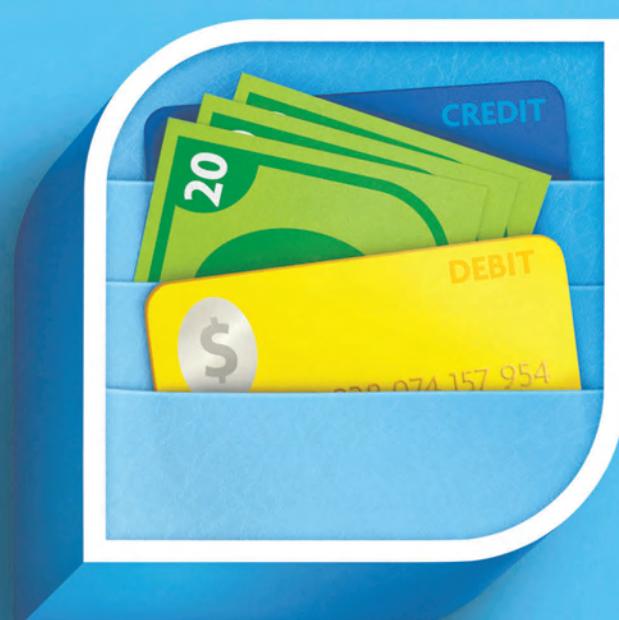
Weather Systems	Weather Fronts	Precipitation Symbols	Other Symbols
H High Pressure	— — Trough	Snow	Fog
L Low Pressure	— — Warm Front	Rain	Thunderstorm
§ Hurricane	▲▲▲ Cold Front	Shower	Haze
	▲▲ Stationary Front	Light	
		Moderate	
		Heavy	

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# End 2016 on a High Note.

At this busy time of year, we could all use a little help! Use your MIT Federal Credit Union Visa® credit card for new purchases, cash advances, or balance transfers and you will automatically be entered to win a cash prize of \$2,016!\*

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# Trump beat the odds and won

*Data science doesn't give answers, but probabilities*

**Election Data**, from Page 1

data, the value of it and the potential to mine it for cost-saving and profit-making insights. It is a behind-the-scenes technology that quietly drives everything from the ads that people see online to billion-dollar acquisition deals.

All kinds of companies and institutions use data quietly and behind the scenes to make predictions about human behavior. But only occasionally — as with Tuesday's election results — do consumers get a glimpse of how these formulas work and the extent to which they can go wrong.

This week's failed election predictions suggest that the rush to exploit data may have outstripped the ability to recognize its limits.

The danger, data experts say, lies in trusting the data analysis too much without grasping its limitations and the potentially flawed assumptions of the people who build predictive models.

The technology can be, and is, enormously useful. "But the key thing to understand is that data science is a tool that is not necessarily going to give you answers, but probabilities," said Erik Brynjolfsson, a professor at the Sloan School of Management at the Massachusetts Institute of Technology.

Brynjolfsson said that people often do not understand that if the chance that something will happen is 70 percent, that means there is a 30 percent chance it will not occur. The election performance, he said, is "not

really a shock to data science and statistics. It's how it works."

Silver, the founder of FiveThirtyEight, did not immediately respond to an email seeking comment. Amanda Cox, the editor of The Upshot, and Wang of the Princeton Election Consortium said state polling errors were largely to blame for the underestimates of Trump's chances of winning.

"If we could go back to the world of reporting being about the candidates and the parties and the issues at stake instead of the incessant coverage of every little blip in the polls, we would all be better off," said Thomas E. Mann, an election expert at the Brookings Institution. "They are addictive, and it takes the eye off the ball."

THURSDAY, NOVEMBER 10, 2016

# Staggered fix will reduce the crunch

*Some Houses will stay together*

**New House**, from Page 1

living groups that wish to stay together are likely to remain together in their new dorms.

DSL has determined that there will be enough space in cook-for-yourself dorms, such as East Campus and Burton Conner, to accommodate all groups that wish to live in a cook-for-yourself dorm.

DSL is also willing to review, on a case by case basis, situations where students would like to stay with their friend groups in dining dorms but cannot afford a meal plan.

"We've been going around and talking to all the dorms to figure out what are the expectations and reasonable standards for any dorm," Nelson added. "East Campus has fairly large singles [of over 180 square feet], but the thing that also has to be factored in is how many bathrooms, sinks, fixtures, graduate student apartments are there, things that we would say enhance the quality of life."

The Architectural Principles committee previously determined that the 90 sq ft should be the minimum amount of room space allotted per student.

McCormick Hall will remain all-female, as mandated by its founding charter. The dorm will be expecting either small groups of female New House residents or additional freshmen.

DSL intends to offer improve-

ments to dorms who take in New House students. Possibilities being considered include adding new GRT apartments, kitchens, and lounges.

Campus dorm representatives have created groups including the W70 New House Renovation Planning Group and the New Residences Working Group Committee to actively engage the MIT community throughout the beginning stages of this housing change. They are meant to facilitate relocation planning, identify areas for improvements as well as represent residents from various dorms.

DSL has requested that dorm heads of house and exec work with their residents in coming up with a preliminary plan for welcoming and accommodating New House residents around mid-November. Nelson hopes to be able to give New House residents a sense of their re-housing options before the Thanksgiving break.

Nelson commented on how "open and nice and kind" students have been in dealing with the situation, praising their willingness to "roll up their sleeves and think about creative ways to welcome New House students."

More information about the logistics and general housing guidelines can be found in the Architectural Principles for MIT Undergraduate Residences report available online.

## Welcome, Dean Nelson!

The MIT community is invited to an afternoon of autumn appetizers, desserts, and beverages as we welcome Suzy Nelson, Vice President and Dean for Student Life, to MIT.

Monday, Nov. 14, 2016

3:00 p.m. - 5:00 p.m.

Vest Student Street  
Stata Center (Bldg. 32)



Massachusetts  
Institute of  
Technology

### Solution to Shiba Inu

4	6	8	3	7	5	9	2	1
1	2	7	9	4	6	8	5	3
9	3	5	1	8	2	7	4	6
7	9	6	8	2	1	5	3	4
5	1	2	4	9	3	6	8	7
8	4	3	5	6	7	1	9	2
6	5	4	7	3	9	2	1	8
3	7	1	2	5	8	4	6	9
2	8	9	6	1	4	3	7	5

### Solution to Wing It

AMEND	CASTS	PRO
CARTE	OCTET	RIO
HIGHER	PLANE	ASP
ELS	JOE	ROADIES
JAB	FENDER	
LARRY	BIRD	ILIAD
ETES	ERE	ELENA
GAS	TRACTOR	DDR
ALTAR	KAN	TORY
LLAMA	BLUEANGEL	
RADLEY	ONT	
HOTSEAT	ANG	AGE
ELI	OUTFIELD	ELDFLY
LEN	FREED	ERIE
MSG	FARES	SNOBS

### Solution to Corgi

1	6	5	4	2	3
6	5	4	3	1	2
3	2	1	6	4	5
2	1	6	5	3	4
4	3	2	1	5	6
5	4	3	2	6	1

### Solution to Labrador

8	2	7	1	9	3	4	5	6
6	9	5	8	7	1	2	3	4
1	4	9	3	2	5	6	7	8
4	7	3	6	5	8	9	1	2
5	8	4	7	6	9	1	2	3
9	3	8	2	1	4	5	6	7
3	6	2	5	4	7	8	9	1
7	1	6	9	8	2	3	4	5
2	5	1	4	3	6	7	8	9

How do we design future water systems?



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NOV. 17

THURSDAY

BREAKFAST

keynote

panels

LUNCH

panels

posters

RECEPTION

NOV. 18

FRIDAY

BREAKFAST

keynote

panels

LUNCH

tech-showcase  
working groups



Massachusetts Institute of Technology

# Therapy dogs join students in Lobby 7 gathering

## MIT Democrats recognize they need to listen: 'that's democracy at work,' Mak said

**Election**, from Page 1

Peterson, assistant director at MIT Admissions, and President Reif both offered their support.

"My hope for this was to allow

people to have a moment to talk about it, to have a moment to listen and process," Mak said. "There are Trump supporters on here, writing that they hope for that too. They came by and they were visibly shak-

en because they'd never seen this before."

Mak also highlighted that it is imperative for liberals and Democrats to not disregard the opinions and perspectives of Trump support-

ers as invalid simply because the former consider the latter racist or sexist.

"If Clinton had won, do you think we'd be having these conversations about their genuine concerns?" she pointed out. "I wouldn't."

"That's democracy at work," she asserted. "They felt like they weren't being heard. And now they're being heard, for better or worse, at the expense of a lot of people being afraid. And I believe everyone should be heard... we need to have constructive dialogue."

The posters sported a range of statements, from "Thank you Hillary Clinton!" and "Hopeful that we won't give up!" to "Make America Great Again" and "I hope weed stays legal."

In addition to the posters, the MIT Puppy Lab relocated their weekly therapy dog session to Lobby 7 by request of MIT's MindHand Initiative.

*The Tech* also reached out to the MIT Democrats Club and the MIT Republican Club (MITGOP) for comment.

In an email to *The Tech*, MIT Democrats co-president Davi da Silva G said that he was "completely disgusted, but trying to look ahead to the work we have to do now."

Jonathan Hurowitz '18, president of MITGOP, wrote, "With a Republican government in both chambers of Congress and the presidency, as well as a likely conservative Supreme Court, I am looking forward to the enactment of several years of proactive, common-sense legislation as well as the repeal and replacement of hurtful measures like Obamacare and the Iran deal."

In an email to the club, Hurowitz wrote: "As Republicans, and many of you, Donald Trump voters, you may be verbally attacked or harassed in the upcoming week. Please take the high road and remember to be civil to your peers."

Before being revived by co-presidents Davi da Silva G, Caroline Mak '18, and Adam Hasz G, MIT Democrats had been inactive for over a decade. MITGOP has been active on and off since 2003.

"There's more political engagement at MIT than people think," da Silva said in an interview with *The Tech* before polls closed Tues-

day night. He and his co-presidents brought back MIT Democrats to provide busy students who are interested in politics with "something to just plug into," allowing them focus their efforts and get involved with the campaign without needing to expend too much time and effort.

There's also a social aspect to the club, which da Silva hopes will help foster an atmosphere of acceptance, rather than antagonism, toward conservatives on a liberal campus in a liberal state.

In a similar vein, Hurowitz said that he hopes "the political atmosphere at MIT will be more open to positive, political discussion," noting that he and other Republicans have at times been afraid to openly voice their political opinions.

Hurowitz estimated that 18 percent of the MIT community considers themselves conservative, and that roughly 90 percent of MITGOP members may have supported Trump over Clinton.

Last weekend as well as on Election Day, MIT Democrats arranged an MIT trip to southern New Hampshire, in coordination with the Clinton campaign office next to Toscanini's. Da Silva said that about 15 students went on Saturday to knock on doors of pre-identified Clinton supporters or likely supporters.

The volunteers' job was to encourage supporters in the swing state to commit to actually voting. Their job was not to convince Trump supporters or undecided voters.

The MITGOP did not endorse a candidate or explicitly organize campaigning efforts, according to Hurowitz, but he himself "passed on a substantial number of volunteer opportunities for Donald Trump in MA and NH."

"My general reaction now is that I feel betrayed," a student at the Lobby 7 gathering, who wished to remain anonymous, told *The Tech*. "This is not what I was promised about America. I never thought I would wake up and feel unsafe and that I would feel afraid for my friends."

Around 11 p.m. Wednesday, a man walked down Lobby 7 and tore two of the "Share Your Hopes" posters.

A few professors granted extensions on projects in response to election results.

## STARR FORUM

# INNOVATION AND ITS ENEMIES

Why People Resist New Technologies



Calestous Juma

Nov 17, 2016 | 5:00 - 6:30

MIT 3-270 | 33 Mass Ave, Cambridge



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A conversation with

## Janet Mock

Tuesday, November 15, 5:30pm  
Kirsch Auditorium (32-123)

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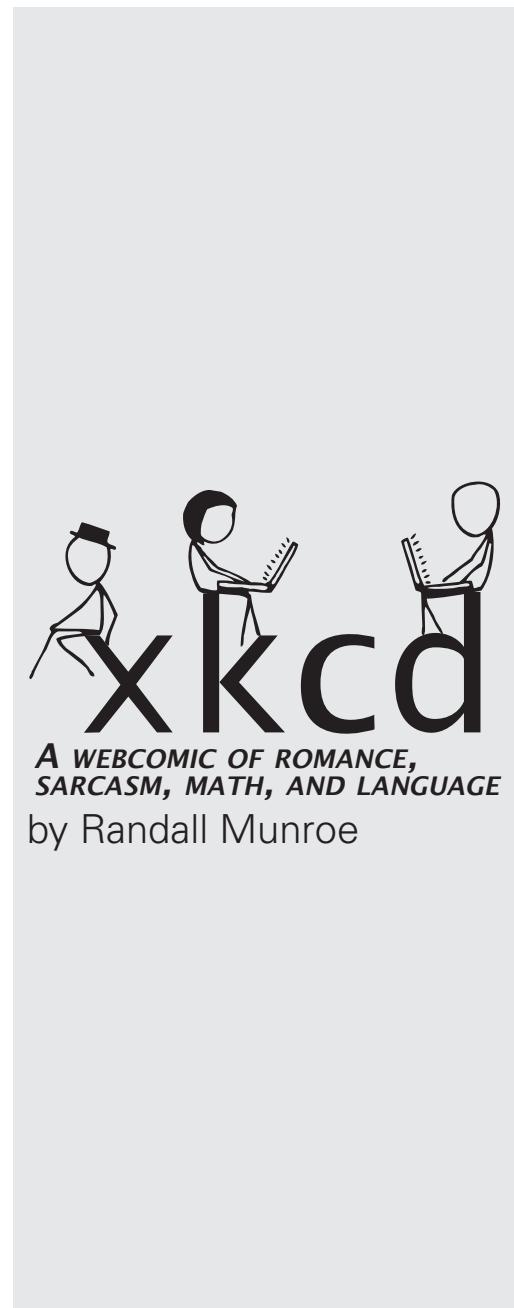


Know  
something  
important we  
should write  
about?

(We probably  
don't know  
about it.)

Let us know.

[news@tech.mit.edu](mailto:news@tech.mit.edu)



## [1755] Old Days

WHAT WERE THINGS  
LIKE IN THE OLD DAYS?  
I HEAR YOU HAD TO...  
COMPILE THINGS FOR  
DIFFERENT PROCESSORS?

TO COMPILE YOUR  
CODE, YOU HAD TO  
MAIL IT TO IBM.  
TOOK 4-6 WEEKS.

BEFORE GARBAGE COLLECTION,  
DATA WOULD PILE UP UNTIL  
THE COMPUTER GOT FULL AND  
YOU HAD TO THROW IT AWAY.

EARLY COMPILERS  
COULD HANDLE CODE  
FINE, BUT COMMENTS  
HAD TO BE WRITTEN  
IN ASSEMBLY.

A simple line drawing of a stick figure with a large, round head and a small body. It is standing next to another figure who is wearing a hat and has a small body.

COULD ONLY BE WRITTEN  
ON PUNCH CARDS. YOU HAD  
TO PICK A COMPACT FONT,  
OR YOU'D ONLY FIT A FEW  
CHARACTERS PER CARD.

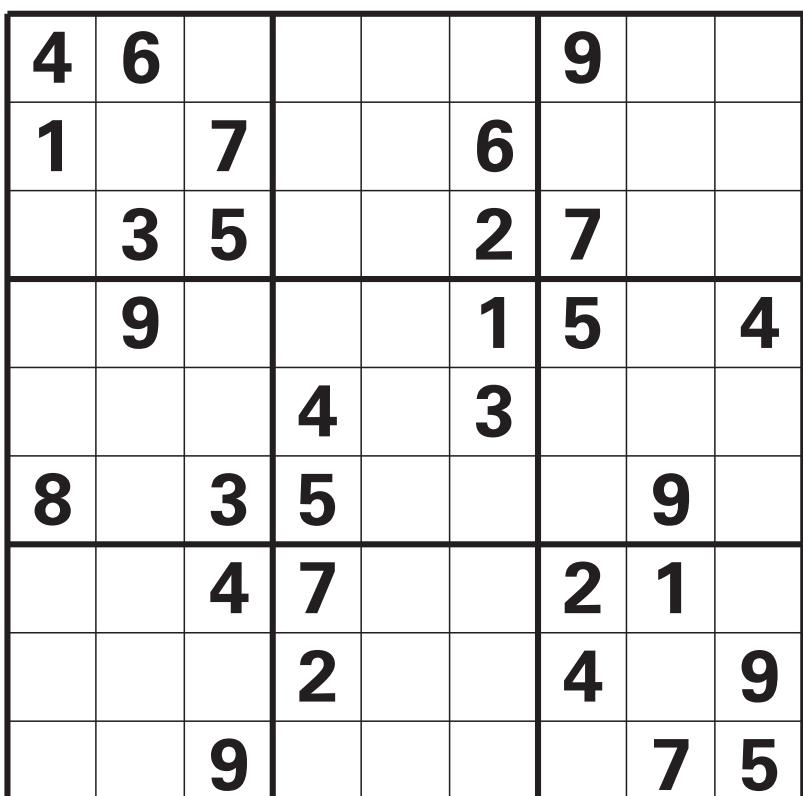
C++ WAS BIG BECAUSE IT  
SUPPORTED FLOPPY DISKS.  
IT STILL JUST PUNCHED HOLES  
IN THEM, BUT IT WAS A START.

A simple line drawing of a stick figure with a disproportionately large, round head and a small, triangular body. The figure's mouth is wide open, and its hands are placed on its cheeks, conveying a sense of shock or amazement. Above the figure, a speech bubble contains the word "WOW." in capital letters, with a curved line extending from the bubble to the figure's head.

Lot of drama in those days, including constant efforts to force the "Reflections on Trusting Trust" guy into retirement so we could stop being so paranoid about compilers.

# Shiba Inu

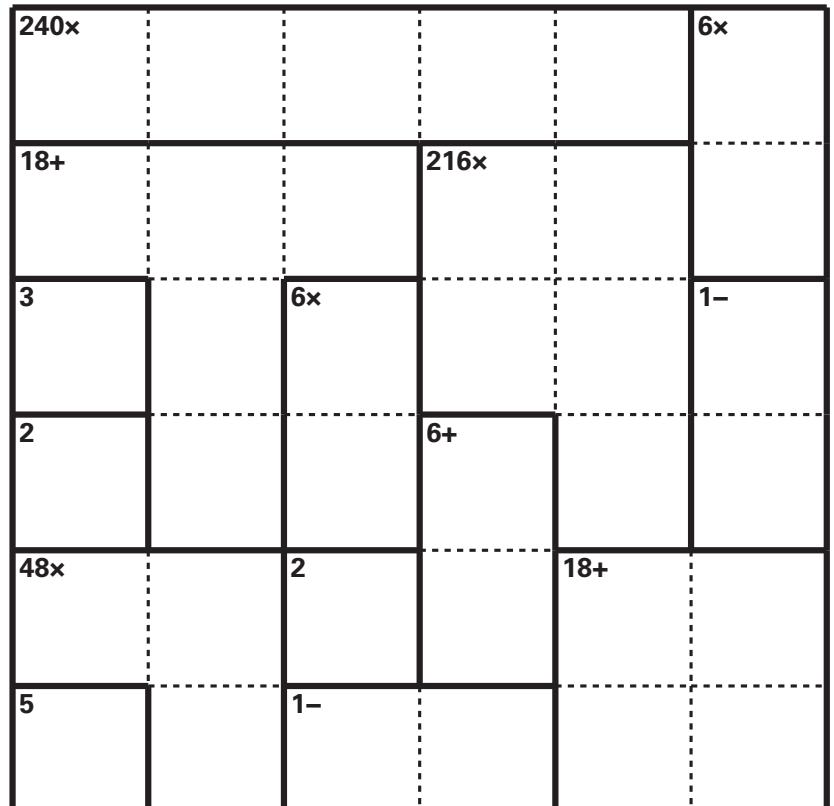
Solution, page 12



Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9.

**Corgi**

### Solution, page 12

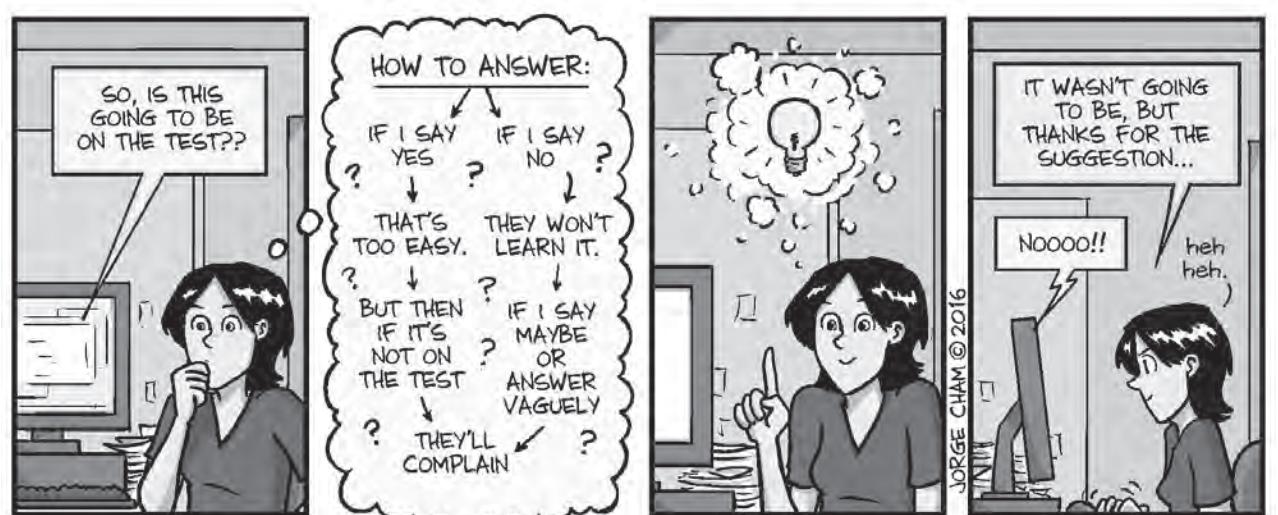


Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–6. Follow the mathematical operations for each box.



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by Jorge Cham



WWW.PHDCOMICS.COM

## Wing It

by Carolyn Stewart

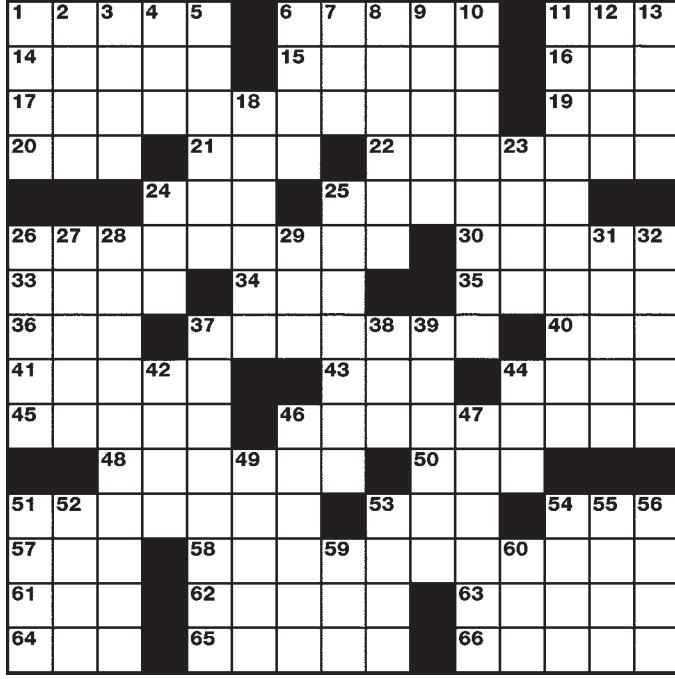
Solution, page 12

**ACROSS**

1 Tweak, as a bill  
 6 Play groups  
 11 Eminent authority  
 14 Café reading  
 15 Musical group or work  
 16 Carnival city  
 17 Next level  
 19 Hieroglyphics symbol  
 20 Former World #1 golfer  
 21 "Regular" guy  
 22 Amp toters  
 24 Sharp critique  
 25 Bike part  
 26 NBA wingman (!) great  
 30 Work set in Troy  
 33 Are, to Giscard  
 34 Macbeth preposition  
 35 Justice who clerked for Thurgood  
 36 What some grills run on  
 37 Plow puller, perhaps  
 40 E. Germany, to natives  
 41 Promising place  
 43 Major wheat st.  
 44 Theresa May, e.g.  
 45 Petting zoo beast

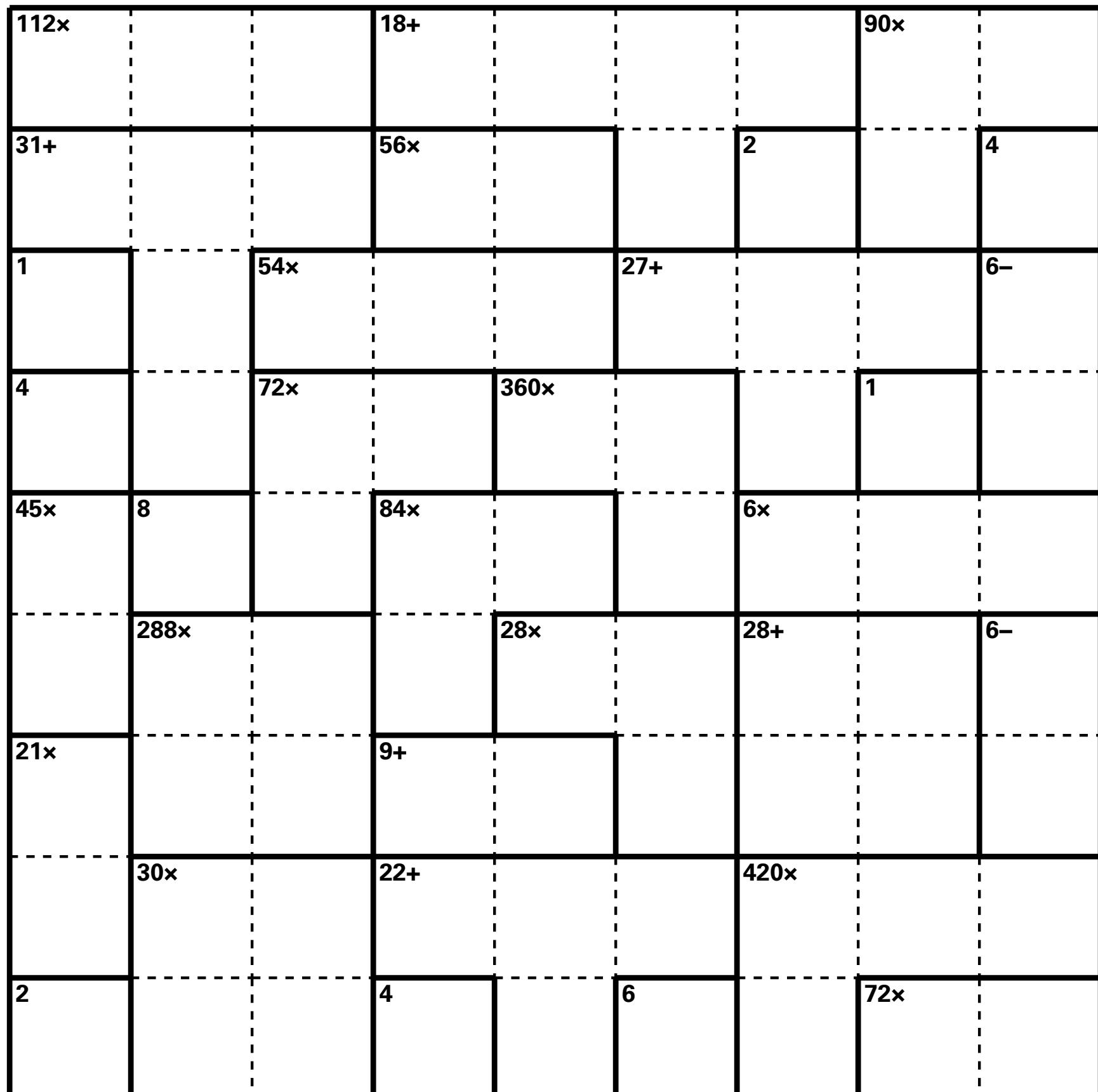
**46 Certain aerobat****48 Lee's recluse****50 Neighbor of Mich.****51 Tricky position****53 Life of Pi name****54 Winery concern****57 New Haven alum****58 It's often a sacrifice****61 Reality judge Goodman****62 Let loose****63 Out of this world****64 FDA-regulated amino acid****65 Paying riders****66 Social climbers****DOWN**

1 Source of discomfort  
 2 Post to a box  
 3 Fractions of a joule  
 4 Indefinite ordinal  
 5 Wedding attendee  
 6 Manage  
 7 Knee MRI target  
 8 Didn't blink  
 9 Timber projection  
 10 Less wobbly  
 11 Lewis and Clark's "barking

**squirrel!"****12 Upward slope****13 "Didn't mean it!"****18 One taking things the wrong way****23 PC giant****24 Some varsity QBs****25 Like Pippi Longstocking****26 Constitutional****27 Ever****28 Trying again****29 Rolled-over thing****31 Violinist Rieu****32 Musical Hall of fame****37 Unenviable exchange****38 Frat letter****39 Two-thirds of a call for help****42 Latin "you love"****44 Wile E. Coyote purchase****46 Improving****47 Hidden agendas****49 Previous First Lady****51 Direct, to Variety****52 Encouraging words****53 Fosters****54 Continental prefix****55 Overly fluent****56 Smiley parts****59 Expense for a client****60 Place for a game table**

## Labrador

Solution, page 12



Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–9. Follow the mathematical operations for each box.



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*The Tech* (ISSN 0148-9607) is published on Thursdays during the academic year (except during MIT vacations) and monthly during the summer by The Tech, Room W20-483, 84 Massachusetts Avenue, Cambridge, Mass. 02139. Subscriptions are \$50.00 per year (third class). **POSTMASTER:** Please send all address changes to our mailing address: The Tech, P.O. Box 397029, Cambridge, Mass. 02139-7029. **TELEPHONE:** Editorial: (617) 253-1541. Business: (617) 258-8324. Facsimile: (617) 258-8226. **Advertising, subscription, and typesetting rates available.** Entire contents © 2016 *The Tech*. Printed by Turley Publications, Inc.

# Love (still) trumps hate

By Bennett McIntosh

For what it's worth, most of America didn't vote for Donald Trump. As of this writing, 200,000 more votes have been cast for Clinton than for Trump, with more than six million going to other candidates.

**Fight hate with radical love that says to immigrants, and refugees, and people of color, and religious minorities, and all who fear Trump's America, "I will stand with you and defend your life, your rights, your humanity."**

And for what it's worth, most of America fears Donald Trump. Exit polls show fifty-eight percent of voters were concerned or scared by the prospect of a Trump presidency. Millions feared Donald Trump, yet voted for him anyway.

Although the majority of Americans feared a Trump presidency, those who were the reason for that fear are emboldened: white nationalist militias, hate groups like the KKK, the proudly self-proclaimed "deplorables" of the rising alt-Right. They will claim a mandate.

Of course, hate has no mandate – many who voted for Trump did so for many other reasons. To appoint a judge who would end a perceived massacre of the unborn. To protect guns or coal jobs that Democrats have caricatured as irredeemable foes. To give, as *LA Times* columnist Vincent Bevins said of both Brexit and Trump's candidacy, "very wrong answers to legitimate questions that urban elites have refused to ask for thirty years." In particular, who is ben-

efiting from globalization and economic growth, and what do we do for those left behind?

It is not only by their own failings that the elite organs of American democracy – government, journalism, science, and academia – have lost the faith of 60 million

ness. Have faith in our democratic institutions; run for office and fight with every remaining legal and democratic tool we have to protect others' rights.

And religious faith? I long ago drifted from the Methodism of my childhood, but today I recall Christ's and Wesley's calls for radical love – a love of action, understanding, and solidarity; a love of building bridges and of fighting fiercely for your fellow human and your planet.

"Don't mourn, fight like hell," said Wednesday morning's Mother Jones headline. Fight hate with radical love that says to immigrants, and refugees, and people of color, and religious minorities, and all who fear Trump's America, "I will stand with you and defend your life, your rights, your humanity." A radical love that says to those so disillusioned they thought Trump alone could fix it, "I will cross lines of state and class and religion to ensure that your voice is heard by more than hateful demagogues."

**Today I recall Christ's and Wesley's calls for radical love – a love of action, understanding, and solidarity; a love of building bridges and of fighting fiercely for your fellow human and your planet.**

Now, let's meet division with dialogue, doubt with faith. Have faith in your friends and family: perhaps love for an individual will overturn fear of the faceless other. Have faith in those who tell truth to power: perhaps your ACLU donation or newspaper subscription will fuel a candle in the dark-

There will always be men like Trump. There must always be many men and women who stand together – not uniform, but unified – to oppose them.

*Bennett McIntosh is a Masters candidate in the Graduate Program in Science Writing.*

## LETTERS FROM THE EDITORS

# Respecting the process, opposing the outcome

*Respect for process does not preclude objections to policy mandate*

By William Navarre and Katherine Nazemi

EDITORS

Americans voted in a legitimate election Tuesday, and the result was that Donald J. Trump will serve as the 45th president of the United States.

**Democracy does not end with the election of the president — the fight over good policy is supposed to continue. By continuing that fight, you are not subverting democracy, but are furthering it.**

We were shocked and disappointed by this outcome. Yesterday, we saw that many of our peers fear that their dignity

and way of life will come under attack during Trump's time in office.

For many of us, it is difficult to accept that the outcome of this process led to an outcome we believe is so truly harmful.

We weren't the only ones surprised by the election. The New York Times suggested Tuesday morning that Hillary Clinton would win with probability 85 percent.

We understood this high probability to mean that our fellow citizens wished to live in an America that's open, outward-facing, welcoming, and that affords dignity to everyone, and that they would reject Trump's vision of a bigoted, fearful America that shirks its role as a leader on global issues.

Now that the election has been decided, we think some might be tempted to allow their respect for the process to realign their view of the outcome. The process is something we respect since it prescribes a method by which a diverse country can come to a conclusion after citizens hear arguments in the free marketplace of ideas.

And in this regard, the system worked on Tuesday. The algorithm provided an

opportunity for Americans to express their view on who ought to be president. And that should be celebrated and respected even now.

But we would like to suggest that this respect for the process does not compel you to support the substantive outcome, namely that Donald J. Trump is going to become president, or even to view that outcome neutrally. Trump will be proposing legislation that will have concrete effect on you and your fellow citizens. Respecting the legitimacy of the process does not require complacency with those policy consequences.

In short, you are justified if you feel alarmed that a sufficient number of Americans chose Trump's vision to make him president. It's likely that many voted for Trump for reasons besides his most offensive positions. But it seems that most of his voters must have at least overlooked his more bigoted attitudes.

Democracy does not end with the election of the president — the fight over good policy is supposed to continue. By continuing that fight, you are not subverting democracy, but are furthering it.

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## LETTER TO THE EDITOR

## Long term solution needed for MIT campus waste disposal

By Erin Reynolds

Approximately 100 billion pounds of food are thrown out every year, accounting for 30 to 40 percent of the available food supply. The Environmental Protection Agency estimates that food accounts for 21 percent of the waste sent to landfills and incinerators, the largest percentage for any single material in the waste stream.

Food waste decomposes anaerobically in landfills, releasing methane, a potent greenhouse gas. Composting diverts food waste from landfills and turns it into a useful product. Compost made from food waste is valuable to farmers and provides an environmentally friendly alternative to artificial fertilizers.

However, the rate of composting in the United States remains abysmally low. In 2013, only five percent of food waste was composted. In contrast, Austria composted 34 percent of its municipal solid waste in 2011. To address this problem, Massachusetts enacted an organics waste ban on organizations that generate more than one ton of food waste per week, including supermarkets and universities like MIT.

Recently, composting has become more difficult in the Boston area, and MIT's composting rules have changed as a result. In previous years, napkins, compostable utensils, cups, and dishware were compostable through MIT's system. But as of this fall, only pure food waste is being accepted. That means if you throw a piece of compostable dishware or napkin into a green compost bin, the compost will be considered "contaminated" and will be sent to a landfill.

If you are outraged by this change in policy, you are not alone. UA Sustainability has spent the last few years trying to spread the use of compostable dishware across campus, and has now been forced to retract the program. Facilities is at a loss, and is working to find alternative solutions. To understand why the composting rules at MIT have changed, it is necessary to step back and look at the wider context of composting in the Boston area.

This past summer, the composting facilities that serve MIT stopped accepting compostable dishware and now only accept pure food waste. MIT's compost is hauled by Casella Waste Systems Inc. and distributed to several facilities. Casella breaks MIT's waste into two streams, Front of House and Back of

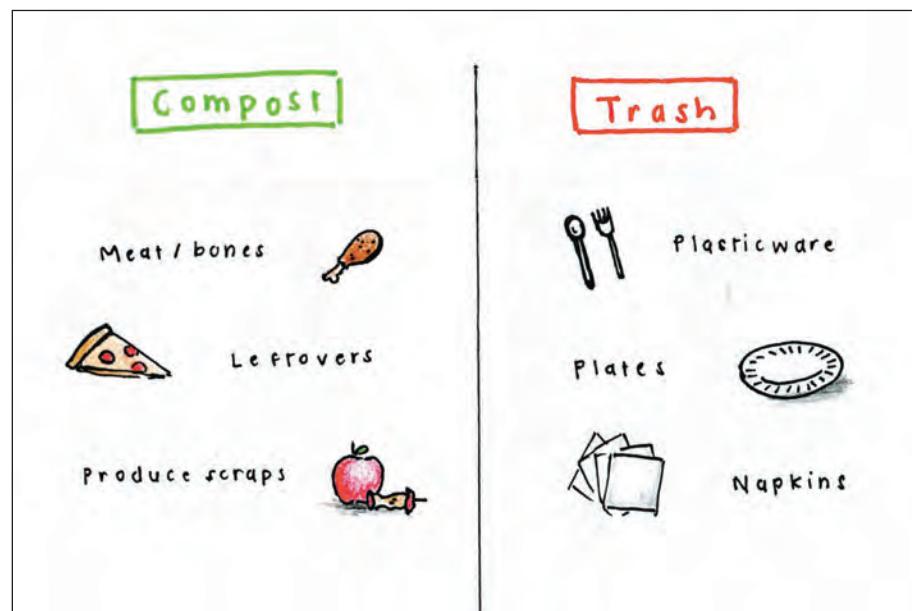


ILLUSTRATION BY KEDI HU

House. Back of House compost is generated in the kitchens during food preparation, and consists of 100 percent food waste. Front of House compost includes the green bins in the infinite, Student Center, Stata, and dining halls. These bins rely on students to accurately sort waste, and tend to contain a higher percentage of compostable dishware and a higher percentage of contamination from trash. In the past, Casella sent Back of House compost directly to farms and sent Front of House compost to industrial composting facilities. The compost needs to be separated because compostable dishware is more difficult to break down than food waste-- dishware requires higher temperatures and ideally preprocessing steps which can only be attained at industrial composting facilities. When facilities in the Boston area stopped accepting compostable dishware, there was nowhere for Casella to send MIT's Front of House compost, and Casella was forced to send it to landfills.

But why did facilities stop accepting compostable dishware in the first place? The answer is not straightforward. The supply of compost and the demand for compost processing has risen much faster than the capacity of the composting facilities in the Northeast. As a result, there are plenty of places piloting compostable dishware programs, such as the local restaurant Clover or UA Sustainability's own compostable dish-

ware program, but the infrastructure does not exist to process the compost stream. As the supply of compost increases relative to the demand for compost from the facilities, facilities can become choosier about what type of compost they accept. Facilities would rather accept pure food waste than mixed compostable dishware and food because food breaks down more quickly and creates higher quality compost than mixed waste. Additionally, when compost includes compostable dishware it is more likely to contain contamination from non-biodegradable materials.

Clover and other businesses in Cambridge are experiencing similar problems with composting. Clover switched to 100 percent compostable packaging in 2010, a program that costs the company over \$200,000 a year to maintain. Ayr Muir, Clover's CEO, believed the cost was worth the environmental benefit. But in June 2016, Muir discovered that Save That Stuff (STS), the company that hauls Clover's compost, had been throwing Clover's compost in the trash. STS had broke its compost into two streams: dirty and clean. Clover was on the dirty route because its compost was sometimes contaminated with trash. STS sent the dirty compost to an industrial composting facility in central Massachusetts, WeCare Environmental.

Unfortunately, WeCare had a falling out

with STS earlier this year. STS claimed that WeCare had become unreliable, while WeCare argued the STS had gone months without paying fees. STS broke off relations with WeCare and declared that from this point forward it will only accept food scraps. STS is a prominent compost hauler the Boston area and this decision affects the fate of many local composting programs, including MIT's. According to Adam Mitchell, a STS executive, the economics don't make sense for the company to encourage customers to use compostable dishware. In his opinion, the risk of contamination does more environmental harm than good.

However, Nora Goldstein of Biocycle magazine disagrees that accepting compostable dishware is a fundamental problem with the composting industry. She interviewed Carla Castagnero, president of AgRecycle, an organics collection and composting company in Pittsburgh. According to Castagnero, AgRecycle has been successfully accepting compostable dishware in their compost for over a decade. She says her company has no magic secret, just a simple set of rules. They pre-grind their compostable items (such as cups and cardboard) to decrease breakdown time, they ensure their piles reach the correct temperatures, and they work with their customers to emphasize appropriate signage and education to reduce contamination. AgRecycle found that accepting compostable dishware and Front of House collection increased food scrap capture by 78 percent. By refusing to accept compostable dishware, composting companies could be losing out on a huge portion of potential food scraps. There is hope for compostable dishware, but for the time being the Boston area seems to be stepping away from that direction.

Casella will "continue to monitor the marketplace for new facilities that might be able to accept these items in the future," Abbie Webbs, Sustainability Director of Casella said. As MIT and Casella work toward finding a long-term solution to campus waste disposal, here are some steps you can take to help reduce waste in the meantime: use reusable utensils and dishware as often as possible, compost only food waste in the green bins around campus, and spread the word about the changes in our composting system.

Erin Reynolds is Publicity Chair for the UA Sustainability Committee.

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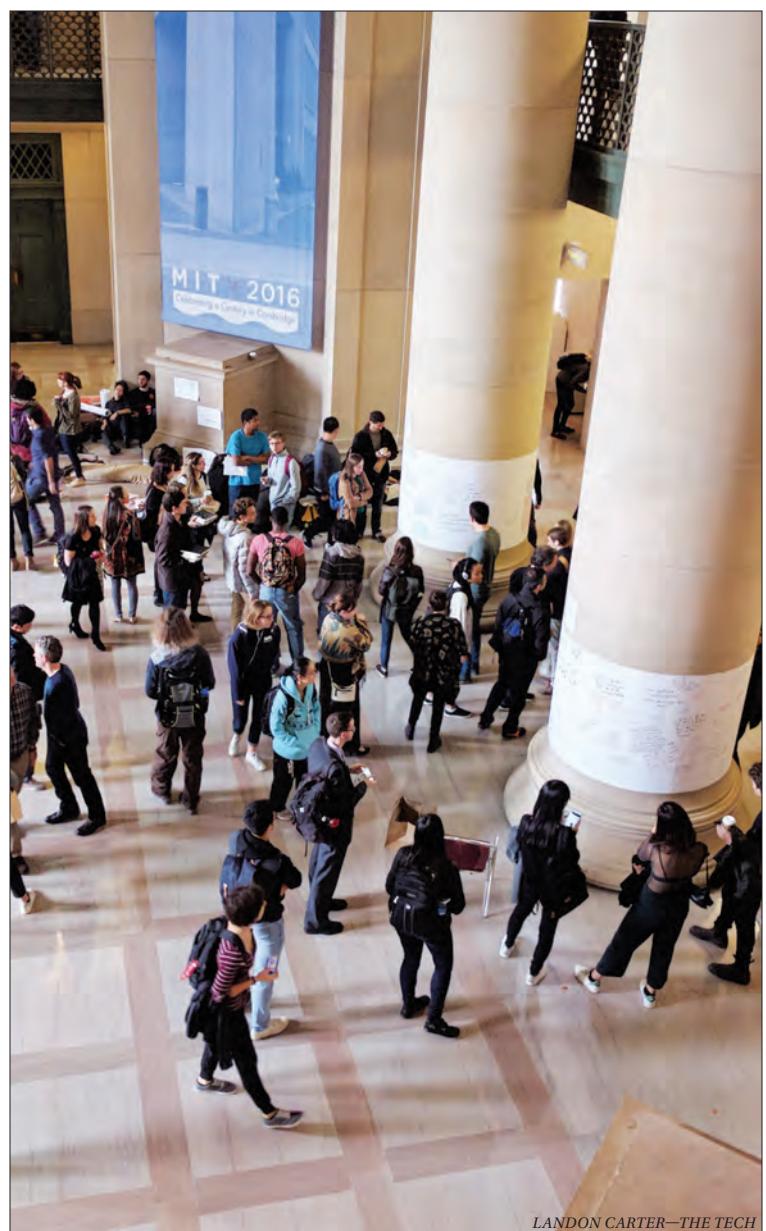
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OPINION



EBER NOLASCO-MARTINEZ



LANDON CARTER—THE TECH

# Election 2016

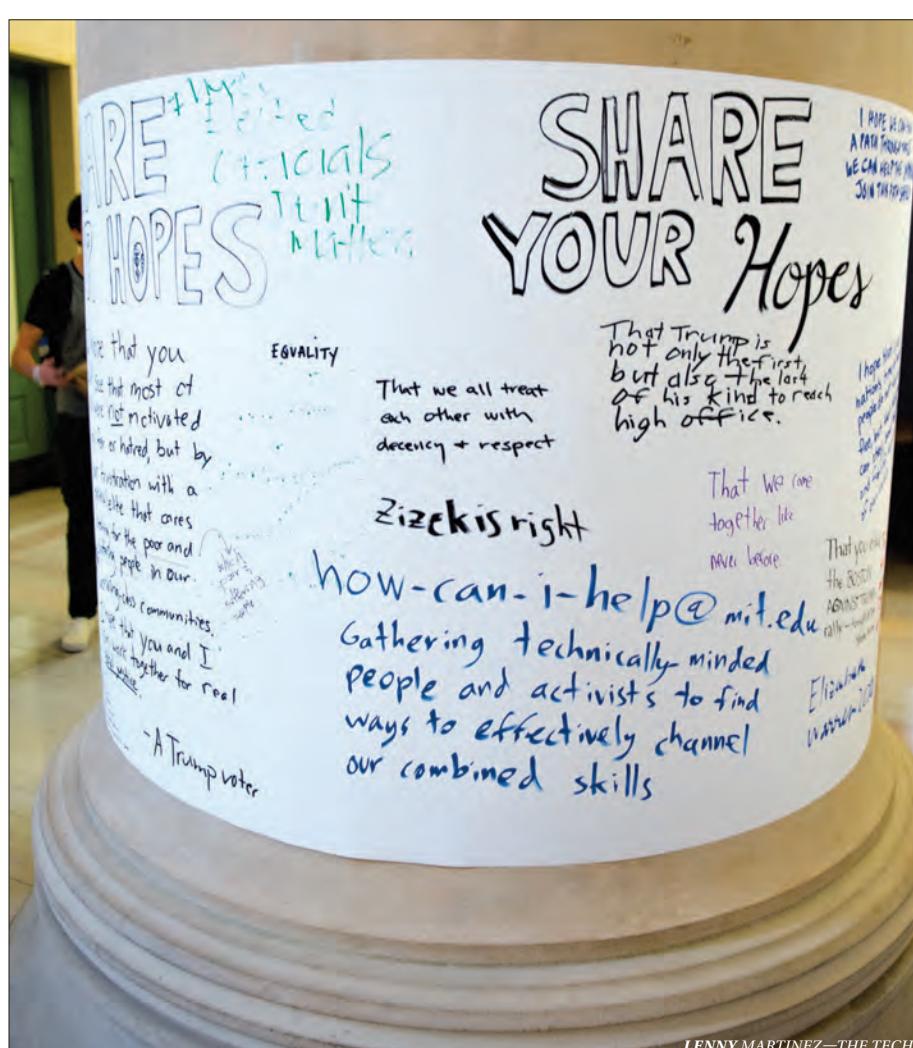
Some students reacted with shock, others with fear and sadness, and still others with hope after Tuesday's election results. In Lobby 7, papers were hung on which students shared and responded to each others' hopes and fears.



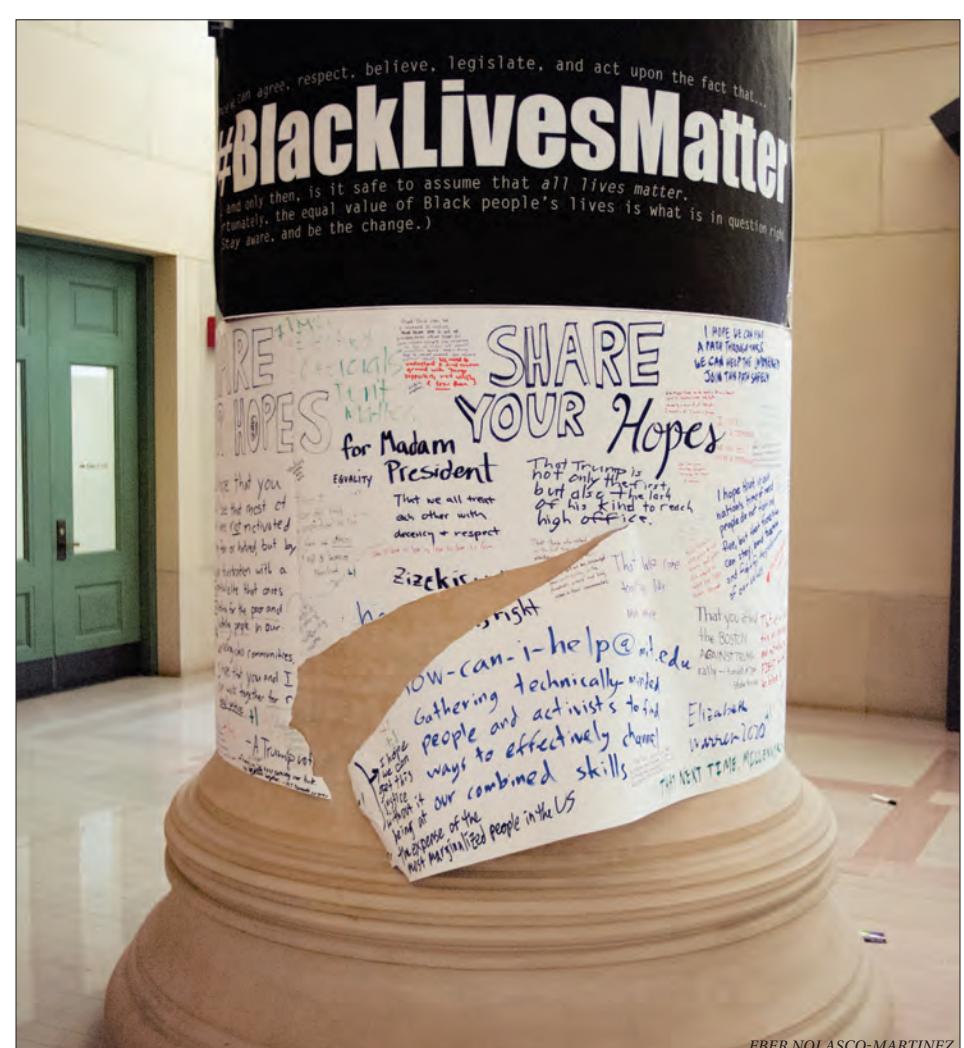
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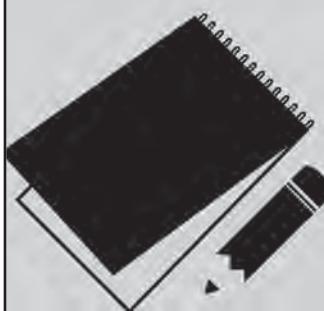








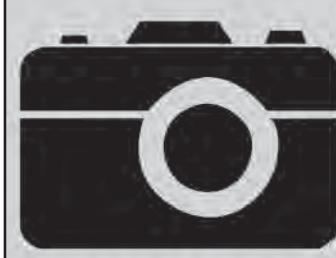
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# Field hockey loses to Babson College in NEWMAC finals

By Margaret H. Carpenter

SPORTS STAFF

The MIT field hockey team ended its exciting run at the New England Women's and Men's Athletic Conference (NEWMAC) championship this Sunday with a 1-0 loss against Babson College. MIT defeated Springfield College last Tuesday with a score of 4-2 to advance to a semifinal game against Smith College on Saturday.

On Saturday, the Engineers got off to an early start against Smith when Emily Penn '18 successfully converted a penalty stroke just five minutes into the first half. This was Penn's 20th goal this season, making her the league's leading scorer. MIT quickly increased the lead six minutes later with a goal by Morgan O'Brien '17, assisted by Bailey Tregoning '19.

Early in the second half, Smith managed to score, cutting MIT's lead in half, but their attempt to complete a comeback was quickly nipped in the bud by MIT players Rayna Higuchi

'20 and Bailey Tregoning. Higuchi managed to score off a pass from Tregoning, becoming the third MIT player to score and earning Tregoning another assist.

Smith scored again late in the second half but a strong defensive performance by MIT meant that they were unable to find a final equalizer and MIT won the contest 3-2, earning them a spot in the final championship game the following day. MIT ended up with more shots and shots on goal than Smith. MIT goalie Kate Brewer '20 tallied 4 saves.

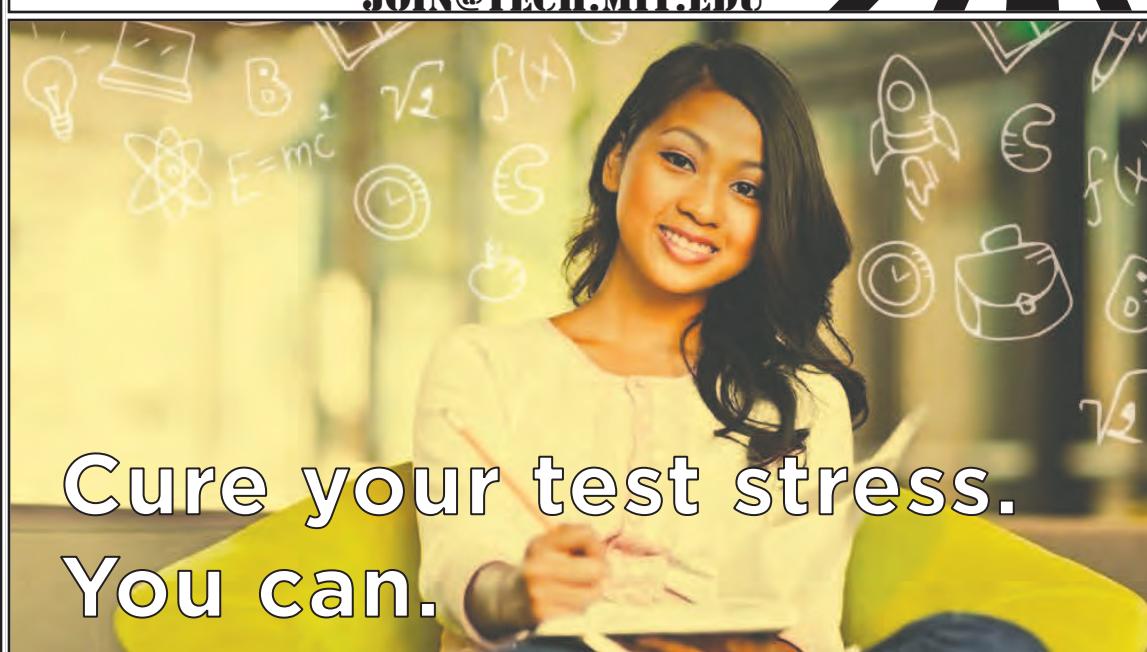
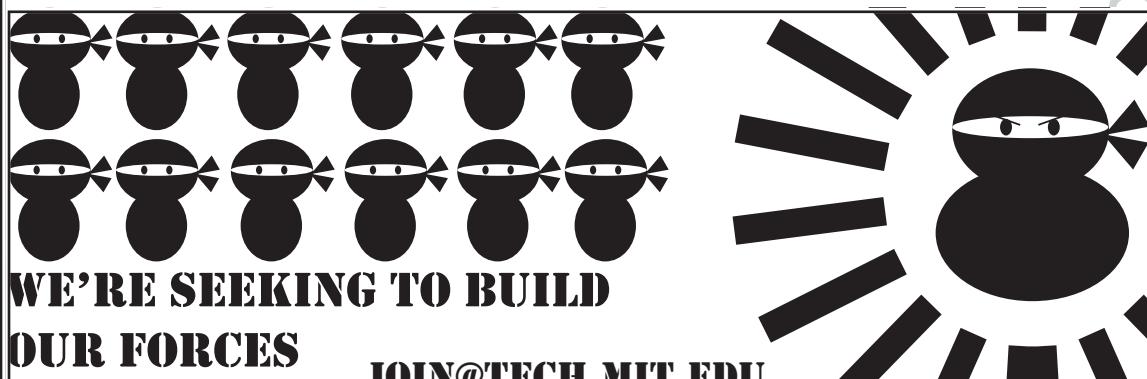
The NEWMAC championship finals took place the next day, Sunday November 6 at Babson College. MIT faced off against top-ranked Babson College in an exciting game. Near the end of the first half Babson took the lead via a penalty corner. Trailing 1-0 after that score, MIT came out strong after halftime and made an offensive run, earning several penalty corners that they were unable to convert. The Engineers stayed in the game and had a last minute push near the end of the second

half but were not able to score an equalizer before time ran out.

Even with an outstanding effort by the Engineers, Babson had the advantage for most of the game and beat out MIT in time of possession, shots on goal, and penalty corners. Babson's defense, led by goalie Deirdre Barry, was rock solid throughout the competition, shutting down MIT's offense, allowing only 6 shots and 5 penalty corners.

While Babson had the ball for much more of the game, MIT's defense in front of their own goal handled the pressure well. Goalie Kate Brewer had a good game, making an outstanding save on a penalty corner late in the second half to keep MIT in the game. Katie Notarangelo '18 and Jane Coffrin '17, along with Brewer, helped keep the MIT defense strong over the course of the competition, weathering 16 penalty corner attempts and 21 shots from Babson offense, with Brewer finishing with 6 saves.

The MIT Engineers ended their regular season 11-4, and took second place at the NEWMAC championships.



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#32 Spencer Rust '18 finishes an attempt at the rim. The Engineers dropped the game 78-63 to Harvard.

# Women's volleyball wins NEWMAC championship

By Zachary Collins  
SPORTS STAFF

This past weekend, MIT's women's volleyball team won the NEWMAC championship for the fifth time in program history. As the top seed, the Engineers played both the semifinal and the championship games at home

and were able to beat Babson College and Clark University to claim the title. Both games finished 3-1 and MIT truly displayed the dominance they've sustained all season long. They will look to continue their success going into the NCAA tournament.

On Saturday, MIT played Babson in the semifinal game. When the two teams played earlier in the season, MIT had the upper hand and came away with a 3-0 sweep. This game obviously had much more importance to both teams, and Babson came out prepared. They seized a 5-2 advantage early in the first set, but it wasn't long before MIT went on a run of their own. They responded incredibly, scoring 10 of the next 11 points and taking complete control of the first

set. It ended 16-25, giving the Engineers an early 1-0 advantage. The second set saw much of the same, as the Engineers jumped out to an early 8-3 lead and maintained a strong separation in an eventual 25-15 win.

The third set was much more intense. Babson, despite dropping the first two, was not ready to concede. They took a commanding 12-5 lead, and seemed much more confident than in the first two sets. MIT stayed with them and gradually reduced the deficit as the set went along. They managed to retake the lead, at 22-21, but unfortunately Babson would go on to win it 25-27, forcing a fourth set.

The Engineers were not discouraged, and retook the control they maintained early on. The final set finished 16-25, giving MIT the win and a bid to face Clark, who they defeated 3-2 earlier in the season, in the championship game.

Megan Gebhard '17 ended with 20 kills and Abby Bertics '19 finished with 17 kills on a very impressive .519 kill percentage.

The first set against Clark started out much like the game against Babson. The two teams remained close until MIT went on a great

run that gave them a strong advantage. The set ended 25-14 and MIT seemingly had all the momentum.

The second set ended up being a much closer battle that saw the two teams go back and forth. The Cougars maintained an early lead, but the engineers remained close for most of the set. After closing the gap to 15-17 on a kill from Lisette Tellez '18, Clark went on an 8-2 run to close it 25-17 and tie the game 1-1.

MIT was dominant in the final two sets of the game. After storming out to an early lead in the third set, they never let Clark close the gap and easily won it 16-25. The final set saw Clark gain an early advantage, but MIT caught up quickly. After being tied 13-13, they closed with a stellar 12-4 run that won them the set, the game, and the title. Tori Wuthrich '17 finished with 26 digs and Gebhard, who ended as the tournament's Most Outstanding Player, finished with 20 kills.

After securing the NEWMAC championship, the team is preparing for the NCAA tournament. They will be playing their first round game against Framingham State University at Tufts on Friday, Nov. 11.

## SPORTS BLITZ

**Women's soccer** lost to hosts WPI 3-1 in the NEWMAC championship final. Allie Werner '20 helped half WPI's lead before the hosts

scored a third to thwart MIT's comeback.

**Men's cross country** won its 19th consecutive NEWMAC title. Matthew Deyo G led the

Engineers win an individual first place finish.

**Women's cross country** swept the top 5 spots en route to a NEWMAC championship. Megan

McCandless '20 took first place.

**Football (3-6)** defeated Curry College 26-21. John Robertson '20 capped his third-straight 100-yard rushing effort with a career high 167

yards including 3 touchdowns.

**Fencing:** Benjamin Lin '17 won gold in sabre category at the Big One Invitational hosted by Smith College.

## PLAYER OF THE MONTH

# McCandless '20 leads cross country to victory

By Souparno Ghosh  
SPORTS STAFF

Megan McCandless '20 has made a tremendous start to her career as a student-athlete at MIT. She led a group of five Engineers who swept the top five positions in the New England Women's and Men's Athletic Conference (NEWMAC) cross country championship, earning her both the NEWMAC rookie and runner of the year accolades.

Two weeks prior to the NEWMAC championship, McCandless finished 3rd out of 386 racers, running a 6K in 20:44.8 to lead the team to second place finish at the Border Battle. With her sights firmly set on the upcoming NCAA cross country regional and national championship, *The Tech's* player of the month speaks about her decision to join MIT, the nuances of competitive cross-country racing, and how she has navigated the firehose without slowing down on the course.

**The Tech:** Congratulations on your first NEWMAC championship! My impression is that the MIT women's and men's cross-country teams are very good but with some of the numbers that you have been putting up, is it a fair assessment to say you are way above the competition?

**Megan McCandless:** I'm not sure if I would say way ahead. I have been doing well. It's hard to tell because it's cross-country and it's different with every course, the weather on the day of the race, whether or not it had rained the day before — all of these can affect [one's] time so it is hard to judge by time in cross-country. But right now I'm the fastest runner on the team so I guess that's good.

**The Tech:** In high school you were a competitive cross-country runner. Can you talk about the

choices you had in terms of choosing a Division I school or a Division III school and why you eventually chose MIT?

**McCandless:** I definitely considered it but the point of going to college is getting a good education and MIT is better than a lot of D1 schools and also because MIT is a D3 school so the focus is more on academics which is what I was looking for. I still want to run fast as fast as I can but it is secondary to getting a good education.

**The Tech:** Do you ever worry that the competition might not be high enough to get the best out of you?

**McCandless:** Yes, but coach [Halston] Taylor seems to be the type of coach who will go out of his way to make sure I go to more competitive meets and face better competition. We have had some conversations about that — which meets would have higher level of competitions with more D1 teams.

**The Tech:** So next up in your schedule is the NCAA regionals followed by the NCAA nationals — how do you like your chances of winning in those meets?

**McCandless:** Regionals, I would definitely like to win. I think if I race well and everything goes to plan I have a good shot of winning. Nationals is going to be much more difficult to win. A couple of weeks ago when we raced [at the Border Battle] I finished third and the top two girls were from D3 as well and the girl who won finished 20 seconds ahead of me and that's a big time gap to make up. I want to go for it. I want to try but that is going to be a much more difficult goal to achieve.

**The Tech:** In the nationals meet you will face competition from across the country but most of your other meets that you have completed thus far are in the

northeast region. As you were mentioning how much weather conditions matter, how much does that affect your ability to prepare for the nationals?

**McCandless:** The national meet is in Kentucky this year so it could either be warm it could be cold and we really don't know what it's going to be like. If it is going to be warm it probably would have helped us had we come from a place like Texas but we can't really complain as it hasn't been especially cold here. If it is cold it is the same as what we have been used to.

**The Tech:** I assume you have at the back of your mind an idea of times you race (minutes/mile). Let's say it is colder or rainy on a certain race day, how do you adjust? How do you know if it is okay to be ten seconds per mile slower or fifteen seconds per mile slower?

**McCandless:** It is hard to figure that out in cross country which is why we don't focus on time as much. It is difficult to know how muddy the course is or how much the higher temperature will affect your race. So if it is hot out I would err on the side of caution. Let's say I want to race at 5:40 mins/mile pace, say I would go out at 5:45. But mainly we go for place [after what distance to the finish line one breaks off for maximum pace] rather than time.

**The Tech:** Let's say you race at a meet where you break your personal best. How do you get a sense that you can break your personal record at any given race? How do you know you can run faster than you ever have before?

**McCandless:** You just run as hard as you can. As long as you run as fast as you can, you can't really be upset. It is basically a mental game in how hard can you push yourself.

**The Tech:** Tell us something

about strategy. What is a typical race strategy?

**McCandless:** A lot of things go into a strategy. A big part of it is who the competitors are and what their styles are. For example, a couple of weeks ago where I was third, the lead girl likes to go really fast the first mile, and slows down a little bit. She is off the blocks so fast that no one else can keep up with her. So in that case, the strategy would be to keep pace with her early on and during the stretch that she has slowed, try and pass her. You don't know if that will work but you might as well try because what you have been doing currently isn't working.

**The Tech:** So if I understand correctly, strategizing isn't about figuring out at what pace you want to go the first x miles and then ramping up the rest of the way, it is also dependent on the style of the opponent.

**McCandless:** Yeah. You can do a time trial and run your own race but for the most parts you strategize according to who you are racing against. For example, in the NEWMAC championship, our plan was to have one of the Wellesley girls lead the race from the start. We just all passed her together. That sort of demoralized her halfway through the race. We swept the top 5 places, so it worked. Obviously this was a different strategy from the one I would use against the girl who won a couple of weeks ago.

**The Tech:** So if you game plan according to opponents, what if there is an element of surprise, like if the opponent doesn't race how you thought he/she would?

**McCandless:** You try to have multiple strategies. You have to be flexible and have planned for as many scenarios as possible beforehand — what if this person is running faster than I thought or

slower than I thought or what if person ends up not showing up. After a certain point, say 2 miles, it is about running as fast as you can!

**The Tech:** Let's say there is a race where you give it your all. How long is a typical recovery period? How long before you can go full throttle again?

**McCandless:** I would say the following Tuesday or Wednesday [after a race on Saturday]. But that is just physically. To do your best at a race, where you are mentally focused at all times, I would say a week or two between races.

**The Tech:** What has it been like competing with the MIT cross country team?

**McCandless:** It has been fantastic. It is such a great environment. They are always there for you. Taking the lead together in the NEWMAC championships was a lot of fun.

**The Tech:** You have mentioned Coach Taylor. He is obviously very renowned and has won coach of the year multiple times. What have you learned from him?

**McCandless:** Probably, to look at times less. I used to focus on times a lot more. How to stay more competitive and how to remain mentally focused during the race. Focus on the goal of trying to win.

**The Tech:** Quickly going back to the decision of coming to MIT, how has that experience been with regard to the academic load to go along with your cross country commitments?

**McCandless:** It has been that bad so far. I am also just a freshman so I assume it can get a lot worse. I haven't had much difficulty. I obviously have to study but I am not stressed out about school work.

*Editor's note: This interview was lightly edited for length and clarity.*